SEARS

owners manual

Model Nos.
387.849190
387.849210

CAUTION:
Read Rules for Safe Operation and Installation and Instructions Carefully.

Save This Manual For Future Reference.

ELECTRONIC AIR CLEANER

- Installation
- Operation
- Repair Parts

Sears, Roebuck and Co., Chicago, IL. 60684 U.S.A.

Printed in U.S.A.

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Introduction

Please read these instructions before installing/using your new Electronic Air Cleaner. This will help you obtain the full benefit from the unit. It will also help you avoid any unnecessary service calls and fees.

FULL ONE YEAR WARRANTY ON ELECTRONIC AIR CLEANER

For one year from the date of purchase, when this Electronic Air Cleaner is installed and maintained according to our instructions. Sears will repair defects in material or workmanship in the product, free of charge.

Warranty service is available by simply contacting the nearest Sears store or Service Center throughout the United States. This warranty applies only while this product is in use in the United States.

This warranty gives you specific rights, and you may also have other rights which vary from state to state.

Sears, Roebuck and Co., Dept. 698/731A, Sears Tower, Chicago, IL 60684

Rules for safe installation and operation

1. Read this Owners Manual carefully. Failure to do so could cause a malfunction of the air cleaner or result in unsatisfactory service.
2. Check local codes and utility requirements before installation.
3. **Always** shut off electricity at fuse box before servicing.
4. Follow a regular service and maintenance schedule for efficient operation.

Basic tools and materials needed

Tools: Tin snip or metal saw, screwdriver, pliers, drill, 6-ft. rule or tape measure.

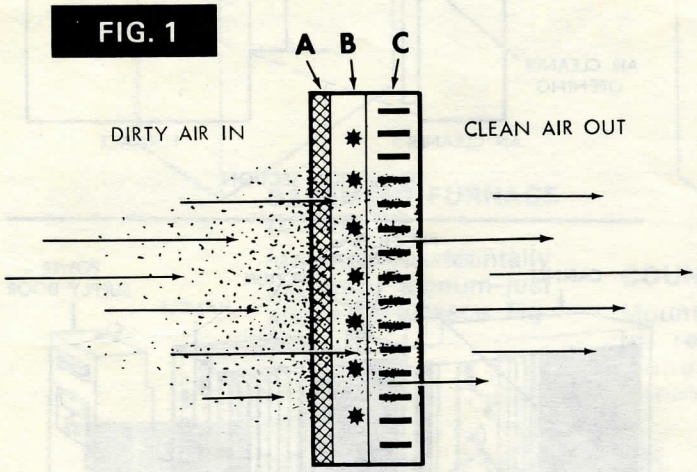
Materials: Line voltage wire (120 volt). Provide enough wire length to reach the junction box on the air cleaner, in accordance with local code requirements.

Optional accessory: Wash tub for cleaning cell. Stock No. **42-83081.**

THANK YOU!

Thank you for selecting a Sears Electronic Air Cleaner. You can be sure it will provide years of service when given proper care and maintenance.

FIG. 1



HOW YOUR AIR CLEANER WORKS

Air containing dirt flows through the ducts and enters the pre-filters (A) where large particles (hair, lint, etc.) are trapped. Smaller particles (smoke, dust, pollen, etc.) pass through these pre-filters and enter the ionizing section (B). Here, each tiny particle receives a positive electrical charge. These positively charged particles then enter the collecting chamber (C). This section has a series of parallel plates which are alternately charged positive and negative.

The positively charged particles are repelled by the positive plates and attracted to the negative plates, where they are collected . . . just as a magnet attracts iron filings.

Thus, only clean, filtered air re-enters the system to be circulated throughout your home.

NOTE: The preservation of clean air in your home will best be achieved by keeping windows and doors closed and operating the furnace blower continuously, especially during allergy seasons.

AIR CLEANER CONSTRUCTION

Your new air cleaner is easy to install, plus it's also easy to operate and maintain. Its basic components are: Fig. 2

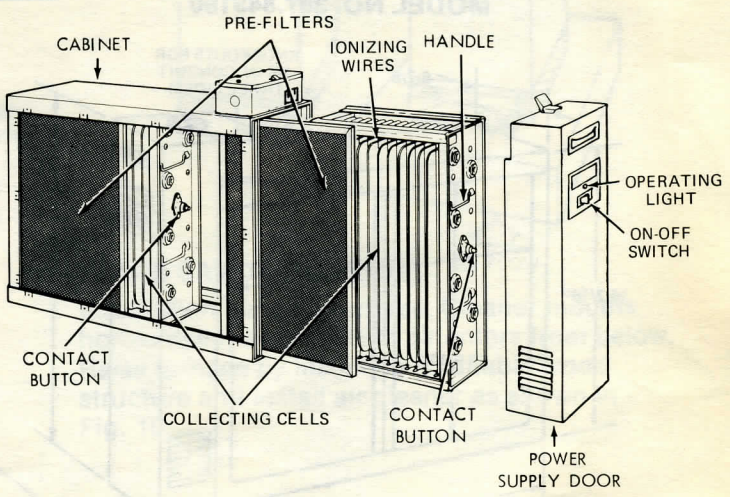
Cabinet — mounts to existing ductwork and houses the collecting cells and pre-filters.

Collecting Cells — collects the dust, dirt and other impurities from the air. They contain the ionizing and collecting sections as described above. The cells must be installed with ionizing wires on the air intake side. The handles and contact buttons (Fig. 2) must be positioned toward the power supply door.

Pre-filters — serves to trap large particles such as hair and lint before they can enter the cell sections.

Power supply door — contains the operating light as well as the solid state power supply and air flow switch.

FIG. 2



A. Locating the air cleaner

Select a location that assures:

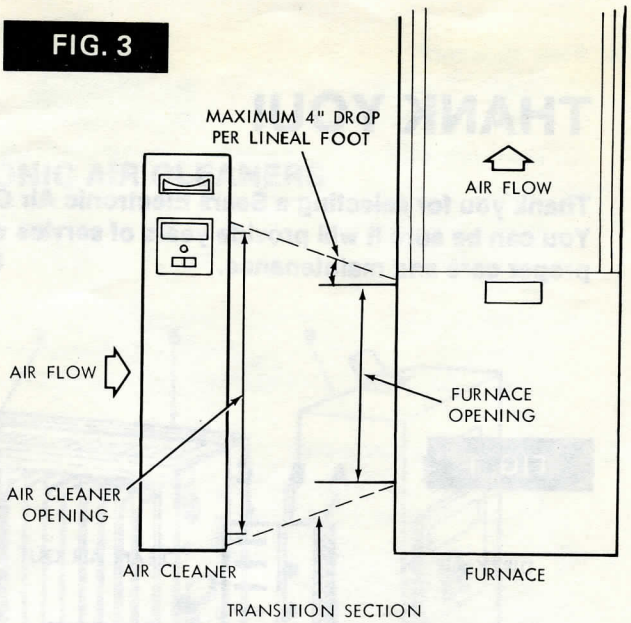
1. Your air cleaner must be mounted in the return air duct so that the air flow first enters the pre-filter side of the cell.
2. The air cleaner is not to be placed in the discharge side of the heating or cooling unit.
3. Allow 14-in. of front clearance to permit removal of the cells and pre-filters for maintenance (Fig. 4). For complete dimensions required refer to Fig. 5.
4. **IMPORTANT** — If you have an atomizing (spray type) humidifier, it must be installed downstream from the air cleaner.

If the furnace opening (Fig. 3) cannot be enlarged to the required size, a transition sheet metal section must be installed. The transition must be carefully planned — reduction should not be more than 4-in. per lineal foot, or about 20 degrees (Fig. 3).

DIRECTION OF AIR FLOW THROUGH THE CLEANER

NOTE: Your air cleaner is set up for the air flow to go from left to right viewed facing power door (Fig. 4). For a right to left air flow, remove the pre-filters and cells from the cabinet. Turn cells upside down and replace in cabinet. Place pre-filters on the air entering side. This will place the ionizing wires at the right, and the contact buttons and cell handles will be facing the power supply door.

FIG. 3



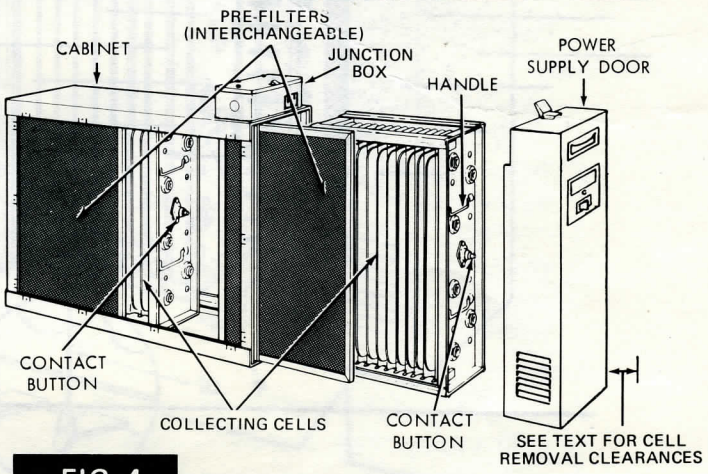
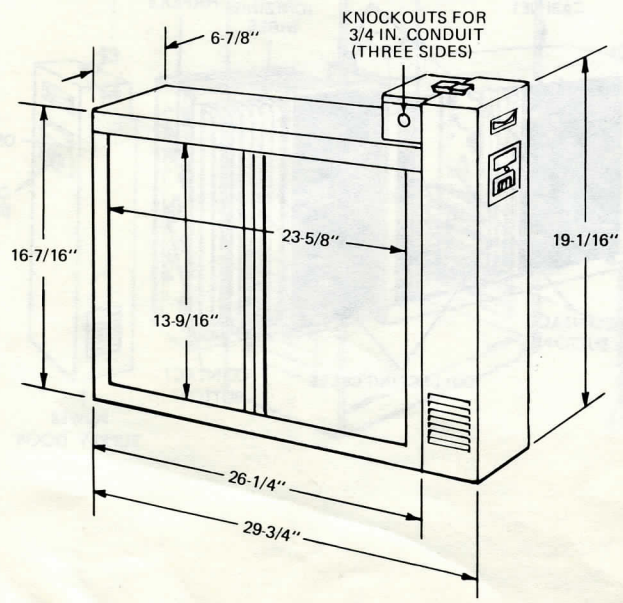


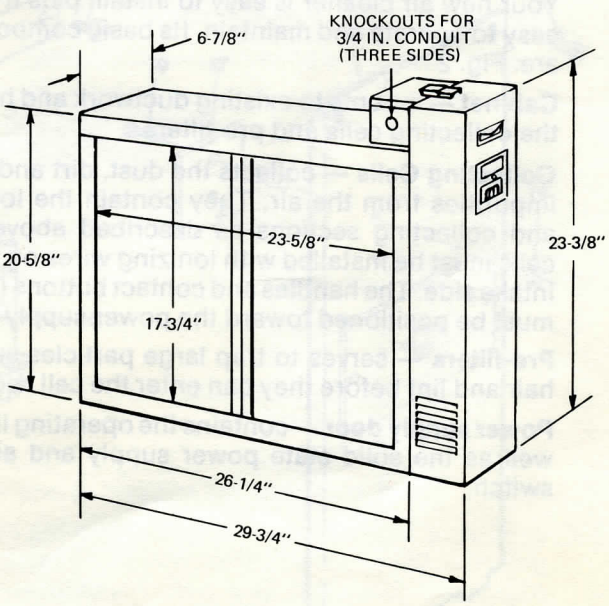
FIG. 4

FIG. 5

MODEL NO. 387.849190

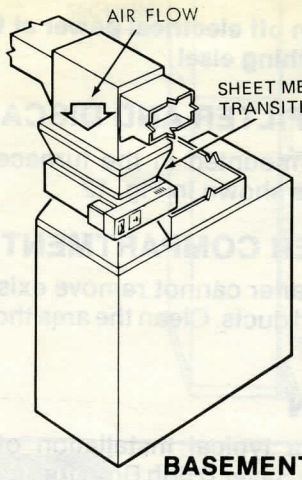


MODEL NO. 387.849210



B. Typical Mounting Positions

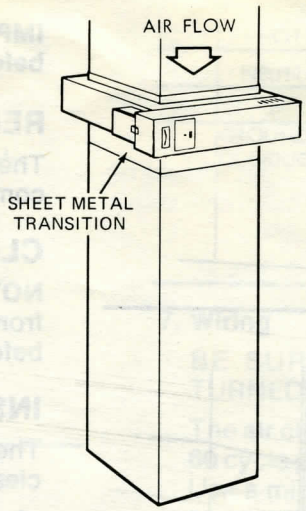
FIG. 6



BASEMENT FURNACE (LOWBOY)

Mounted horizontally in return plenum-just above the furnace. Fig. 6.

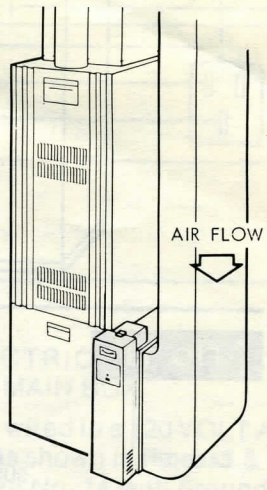
FIG. 7



COUNTERFLOW FURNACE

Mounted horizontally in return duct or plenum, just above furnace. Fig. 7.

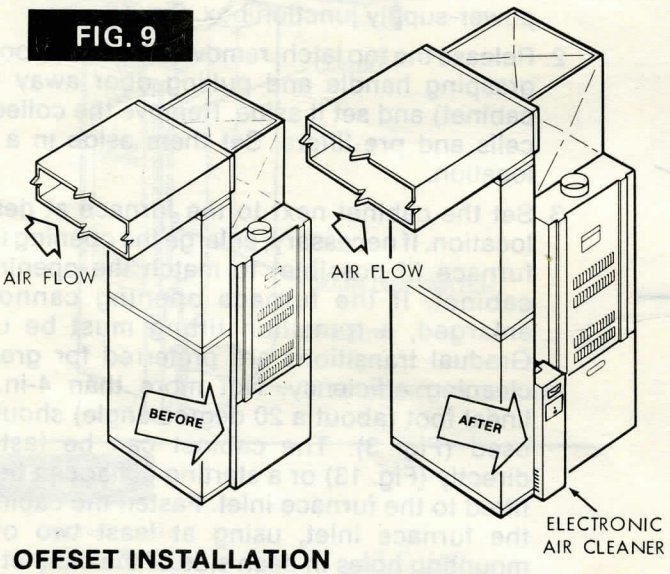
FIG. 8



SPACE SAVER FURNACE (HIGHBOY)

Side installation. Cleaner is mounted vertically, where return air enters side inlet of furnace. Fig. 8.

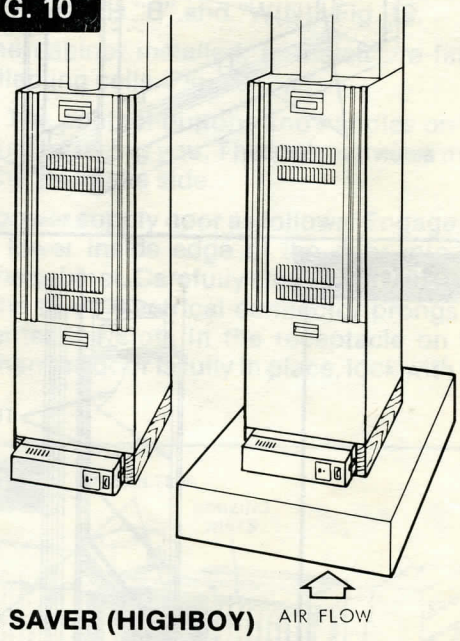
FIG. 9



OFFSET INSTALLATION

If there is less than 7-in. for mounting the air cleaner between the duct and the furnace, move the return air drop. Figure 9.

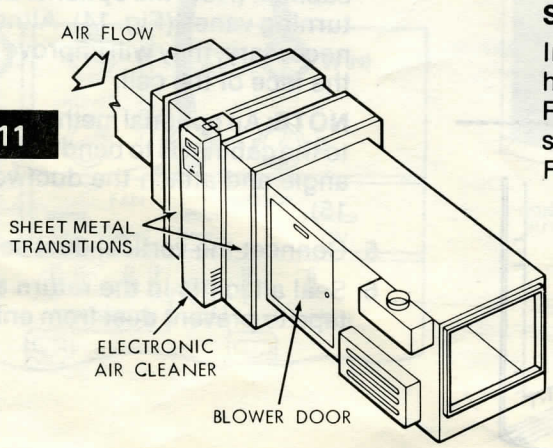
FIG. 10



SPACE SAVER (HIGHBOY)

Installation beneath furnace. Cleaner mounts horizontally, where return air enters from below. Raise furnace by installing a suitable wood structure and install air cleaner as shown in Fig. 10.

FIG. 11



HORIZONTAL FURNACE

Mounted vertically in the return duct as close to furnace as possible. Fig. 11.

FIG. 12

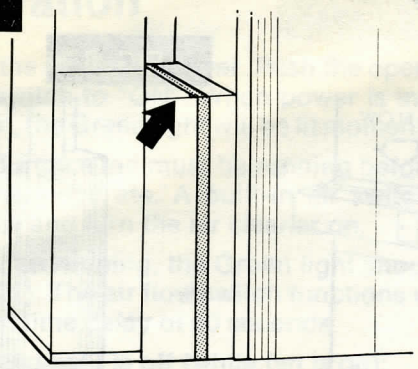


FIG. 13

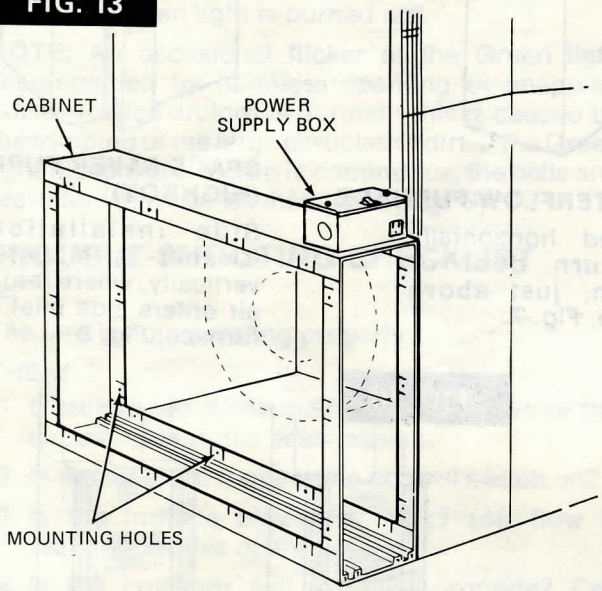


FIG. 14

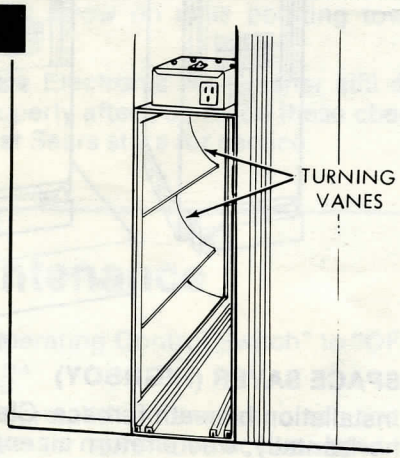
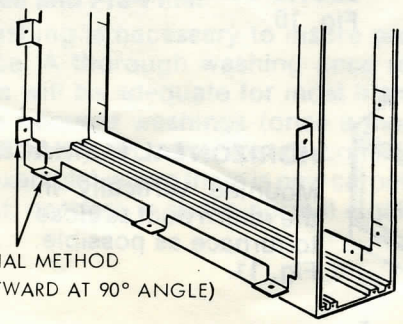


FIG. 15



C. Installation

IMPORTANT: Turn off electrical power at fuse box before you do anything else!

REMOVE OLD FILTER AND DISCARD

The filter may be mounted in the furnace blower compartment, or as shown in Fig. 12.

CLEAN BLOWER COMPARTMENT

NOTE: The air cleaner cannot remove existing dirt from the blower and ducts. Clean the area thoroughly before you begin.

INSTALLATION

The following is a typical installation of the air cleaner on a Space Saver (High Boy) furnace. Fig. 8.

1. Place the air cleaner on the floor. Stand it upright with the power supply door facing you. If a horizontal installation is being planned, lay the air cleaner on its side so as to help you visualize the relative location of all the parts. Allow ample space for wiring and servicing of the electrical power-supply junction box. Fig. 13.
2. Release the top latch, remove the power door (by grasping handle and pulling door away from cabinet) and set it aside. Remove the collecting cells and pre-filters. Set them aside in a safe location.
3. Set the cabinet next to the furnace at desired location. If necessary, enlarge the opening in the furnace (if possible) to match the opening in cabinet. If the furnace opening cannot be enlarged, a transition fitting must be used. Gradual transitions are preferred for greatest cleaning efficiency. Not more than 4-in. per lineal foot (about a 20 degree angle) should be used (Fig. 3). The cabinet can be fastened directly (Fig. 13) or a starting collar can first be fitted to the furnace inlet. Fasten the cabinet to the furnace inlet, using at least two of the mounting holes in each side of the cabinet.
4. Using a butt type joint, attach ductwork (normally an elbow) to the inlet side of the air cleaner cabinet. (Note the optional use of the sheet metal turning vanes (Fig. 14). Although not absolutely necessary, they will improve air distribution over the face of the cell.

   NOTE: An optional method of attaching ductwork to the cabinet is to bend the tabs outward at a 90° angle and attach the ductwork to the tabs (Fig. 15).
5. Connect the vertical duct section to the elbow.
6. Seal all joints in the return air system with duct tape to prevent dust from entering the airstream.

FIG. 16

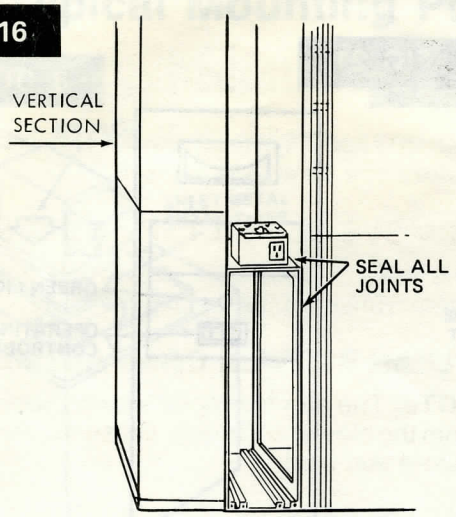
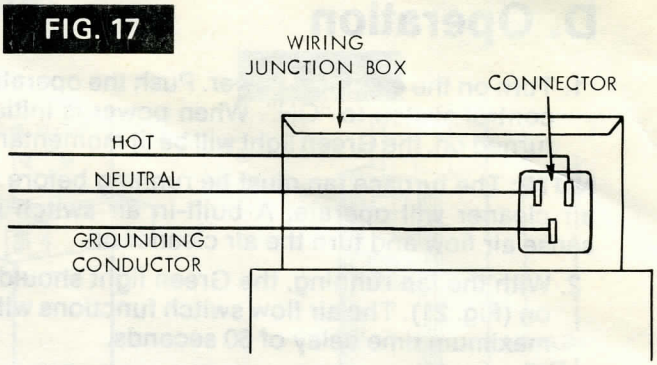


FIG. 17



7. **Wiring**

BE SURE THE ELECTRICAL POWER IS TURNED OFF AT THE MAIN BOX.

The air cleaner must be wired to a 120 VOLT AC, 60 cycle power supply as shown in Figs. 17 & 18. Use a minimum wire size No. 14 with ground or as required by local electrical codes. Fig. 18 shows a typical conduit and switch installation. Please note: the air cleaner includes a special air switch in the power door which senses air flow and turns the air cleaner on — IT MUST NOT BE WIRED THROUGH THE FURNACE CONTROLS. If you have a Sears furnace equipped with ELECTRICAL COMFORT CENTER, wire to air cleaner terminals "B" and "W(N)" Fig. 19.

8. With the cabinet installed, re-install pre-filters and collecting cells. Fig. 20.

NOTE: The contact buttons and handles on the cells must be facing you. The ionizing wires must be on the air intake side.

Install the power supply door as follows: Engage the tip on the lower inside edge of the door into the flange on the cabinet. Carefully close the door. Make sure that the three electrical connector prongs on the door enter the slots in the receptacle on the cabinet. When the door is fully in place, lock with the top latch.

FIG. 18

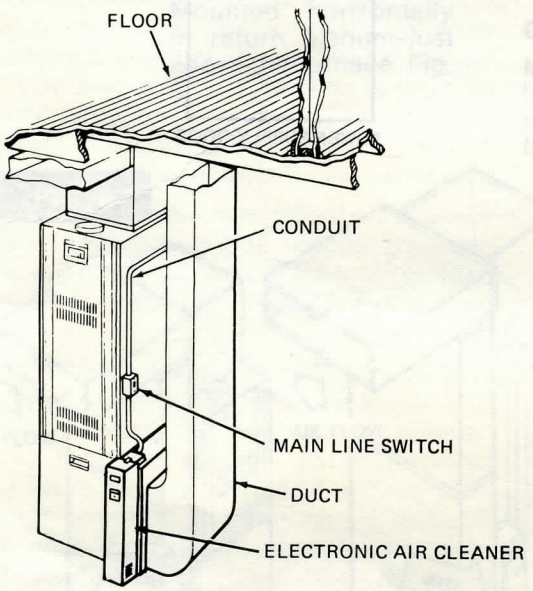


FIG. 19

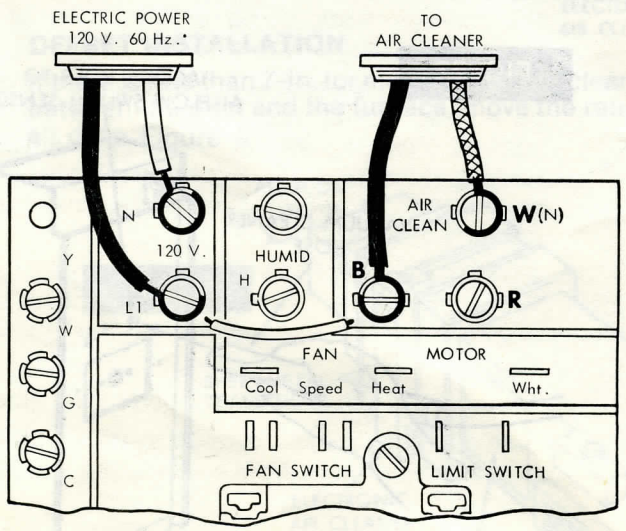
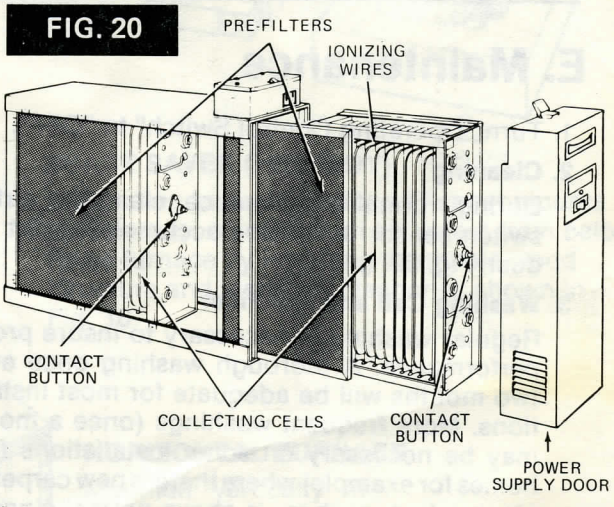


FIG. 20



D. Operation

1. Turn on the electrical power. Push the operating control switch to "ON". When power is initially turned on, the Green light will be lit momentarily.

NOTE: The furnace fan must be running before the air cleaner will operate. A built-in air switch will sense air flow and turn the air cleaner on.

2. With the fan running, the Green light should be on (Fig. 21). The air flow switch functions with a maximum time delay of 60 seconds.
3. If the Green light is off (while fan is on):
   A. electrical power is not being supplied to the air cleaner, or
   B. the Green light is burned out.

NOTE: An occasional flicker of the Green light accompanied by harmless sparking or snapping noises (called arcing) is normal - this is caused by the trapping of the large particles of dirt. If the Green light flickers and arcing is continuous, the cells and pre-filters must be washed. (See page 9).

TROUBLE-SHOOTING CHECKLIST

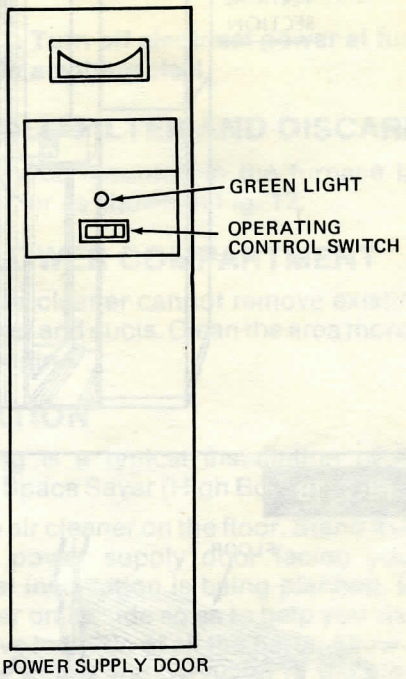
IF:
The unit is not operating properly

THEN:

1. Check to see if, the main fuse has blown or the circuit breaker has been tripped.
2. Is the air cleaner operating control switch on?
3. Is the furnace blower running? (Air flow is required for this operation).
4. Is the collector cell installed properly? Cell contact buttons must face toward the power door with arrow on cells pointing toward the furnace.

If your Sears Electronic Air Cleaner still does not operate properly after you made these checks, call your nearest Sears store for service.

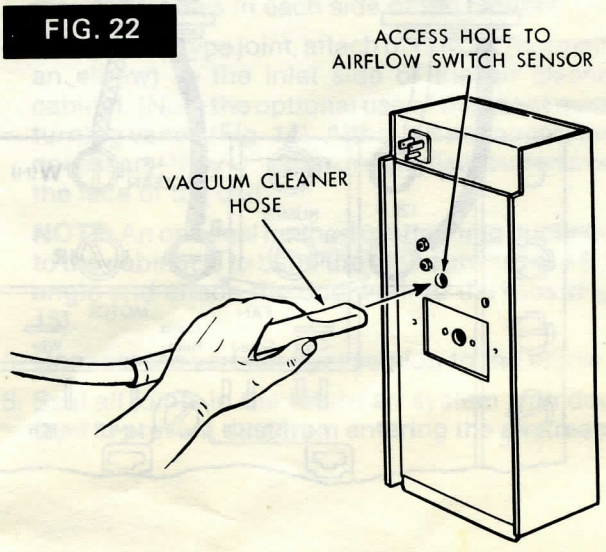
FIG. 21



E. Maintenance

1. Turn "Operating Control Switch" to "OFF".
2. **Cleaning**
   During normal maintenance, clean the airflow switch sensor to remove accumulated dirt and dust. Fig. 22.
3. **Washing Cell and Pre-Filter**
   Regular washing is necessary to insure proper performance. A thorough washing once every two months will be adequate for most installations. More frequent washings (once a month) may be necessary on some installations (new homes for example) where there is new carpeting, plaster dust, or there is above normal cigarette smoke, etc.

FIG. 22



4. **How to wash**
   A. Push "Operating Control" switch to "Off". Wait 15 seconds.
   B. Remove the cells and pre-filters and set aside.
   C. Avoid damage to cell plates and ionizing wires. (Inspect wires to see if they are heavily coated. If so, wipe each wire clean with a cloth or brush).
   D. Cells and pre-filters may be washed together or one at a time in an automatic dishwasher if they can fit without damaging the ionizing wires on the cells.

5. **Prepare the wash water**
   A. Place enough water hot in the utility tub (sold separately) to cover the cell.
   B. Dissolve 2 to 4 oz. of automatic dishwasher detergent in the water.

   Do not use types of detergents with animal fat in contents. (This will coat cell surface and reduce efficiency.)

6. **Soak**
   A. Lay the cell on its side in the container and allow it to soak for 30 minutes. Fig. 23.
   B. Then "slosh" the cell up and down in the solution until it appears clean. Remove the cell from the container.
   C. Then "slosh" the pre-filter up and down in the solution until it appears clean. Drain out dirty water.

7. **Rinse**
   A. Hold cell upright in container. Fig. 24.
   B. With a hose, rinse with warm water.
   C. Hose should be held about 10-in. from cell plates and at a slight angle for better cleaning results. Rinse both sides until water runs clear.
   D. Flush the cell frame along the edges to dislodge and trapped dirt or lint. Carefully wipe a damp cloth along the ionizing wires.
   E. Flush and rinse pre-filter on both sides.
   F. Stand cell and pre-filter up to drain. Fig. 25. Wait about two hours to dry.
   G. Replace pre-filter and cell in cabinet or duct work. Check that arrow on cell points in same direction as air flows through the duct.

REPLACING AN IONIZING WIRE

If an ionizing wire should break, it can be replaced as follows:

1. Remove all pieces of broken wire. Make sure supports at each end are in good condition and not bent out of shape.
2. Hook the new wire onto the support at one end.
3. Hold your finger against the support at the other end (Fig. 26) and hold the ionizing wire between thumb and forefinger as shown. Press on spring and push on wire loop until it slips over the end of the support. Make sure wire is securely anchored at each end.

FIG. 23

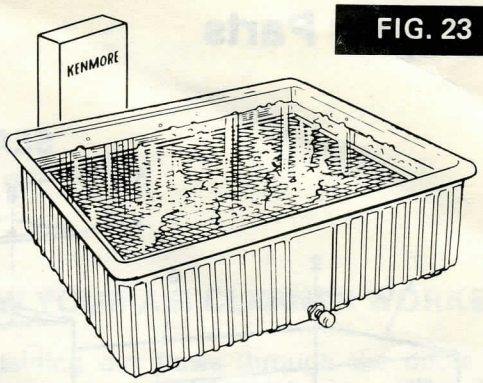


FIG. 24

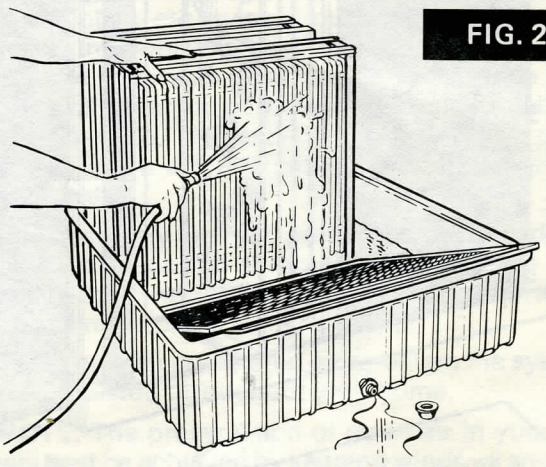


FIG. 25

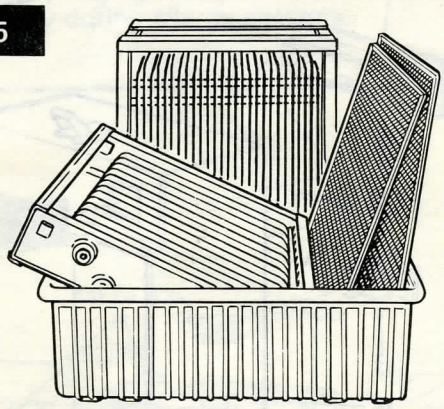
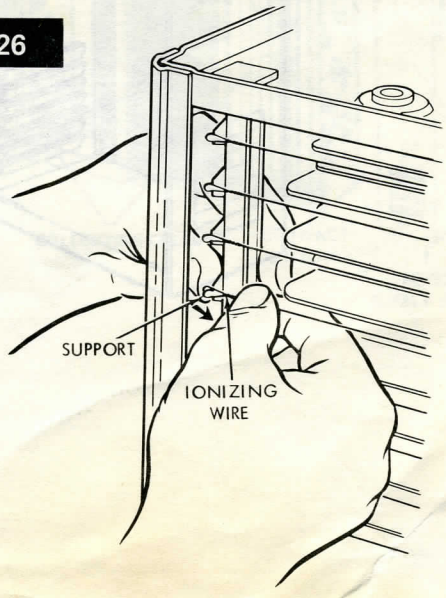
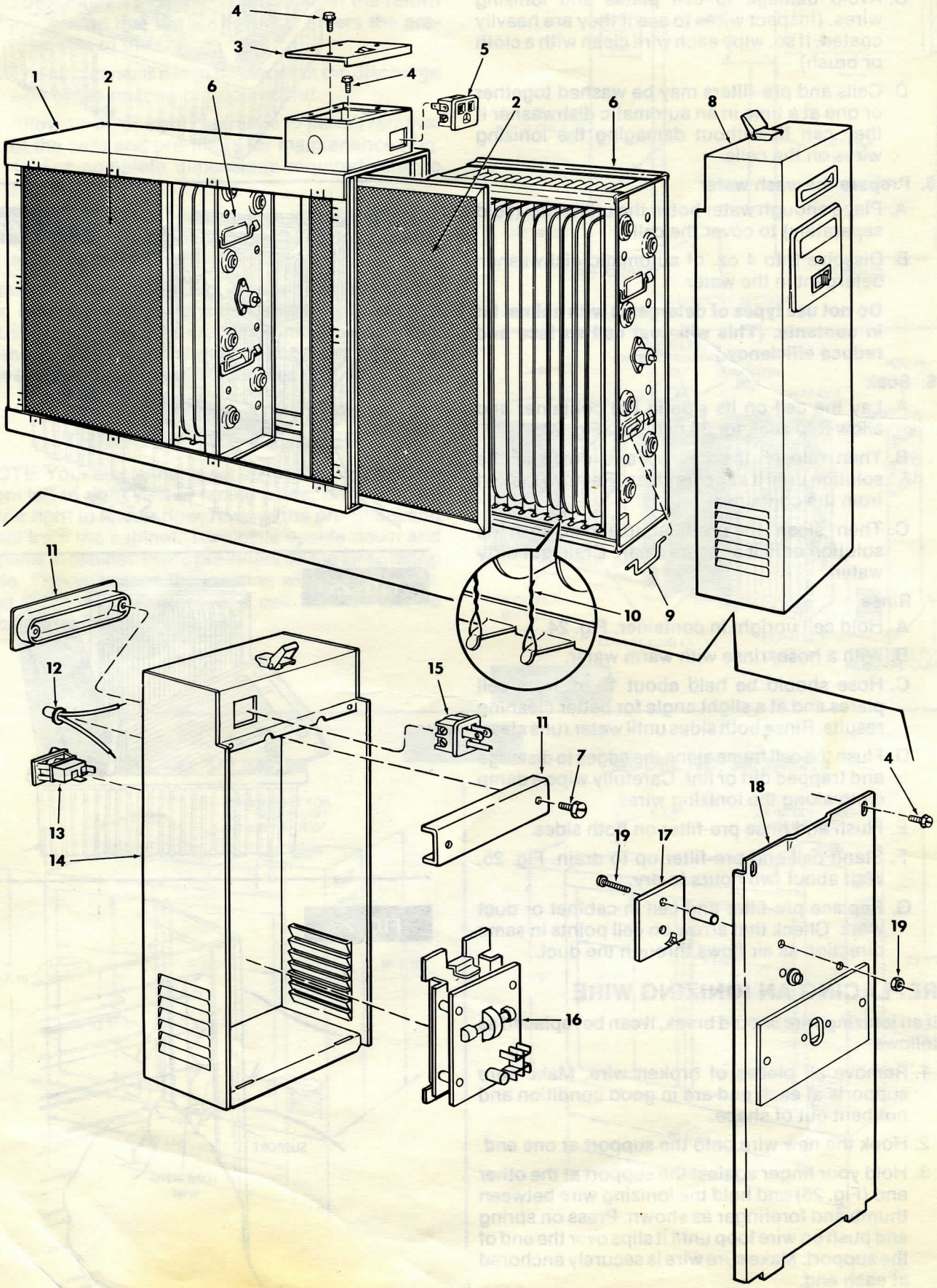


FIG. 26



Repair Parts

SEARS ELECTRONIC AIR CLEANERS



SEARS ELECTRONIC AIR CLEANERS

Always Order by Part Number — not by Key Number.

KEY NO.	PART NUMBERS MODEL 387.849190	PART NUMBERS MODEL 387.849210	DESCRIPTION
1.	F808-0558	F808-0559	Cabinet
2.	F825-0433	F825-0434	Pre-filter (2 req'd.)
3.	F820-0224	F820-0224	Cover
4.	STD610603	STD610603	*Screw, No. 6 x 3/8 Type B Hex Hd.
5.	F818-0058	F818-0058	Receptacle
6.	F811-0408	F811-0407	Cell Assembly (Includes Key Nos. 9 & 10) (2 req'd.)
7.	F867-0062	F867-0062	Screw, 10-24 x 3/8
8.	F858-0814	F858-0815	Power Supply Door, Complete
9.	F832-0038	F832-0038	Handle, Cell (2 req'd.)
10.	F843-0644	F843-1185	Ionizing Wire
11.	F832-0060	F832-0060	Handle
12.	F844-0128	F844-0129	Light
13.	F876-0201	F876-0201	Operating Switch
14.	F858-0813	F858-0812	Power Door Shell
15.	F827-0029	F827-0029	Plug
16.	F858-0810	F858-0811	Power Supply
17.	F859-0291	F859-0291	Air Flow Switch (Includes Key 19)
18.	F820-0091	F820-0225	Cover, Power Pack
19.	F801-0135	F801-0135	Mtg. Hardware for Air Flow Switch
+	846-0904	846-0904	Wash Reminder Schedule (not shown)
+	F801-0133	F801-0133	Wash Container (Optional) (42-830810)
+	846-0973	846-0973	Owners Manual (F642-7585)

*Standard Hardware Item — May be Purchased Locally. +Not Shown

Service hints

If you feel your Electronic Air Cleaner is not operating properly, please check the following before calling your Sears Service Center.

1. Is the main fuse blown or the circuit breaker tripped?
2. Is the air cleaner switch on?
3. Is the furnace blower running? Air flow is essential for operation.

If your Sears Air Cleaner still does not operate properly after you have made these checks, call your nearest Sears Service Center.

SERVICE CHECK LIST

SYMPTOMS	POSSIBLE CAUSE
Switch on, Green light off	1. Blower not running.
Switch on, blower running, Green light off	1. Dirty cell, or plate shorted by large obstruction. 2. Cell requires service (bent plate, loose ionizing wire, etc.). 3. Air flow switch restricted (should be cleaned). 4. Power supply door requires service (light, air switch, power supply).
Randomly flickering green light, (An occasional flicker is not abnormal)	1. After washing allow more drying time. 2. A "popping" noise will be heard. This is caused by the trapping of large particles. 3. Air flow switch restricted (clean).